permanentibus, ultim. anfr. evanidis, interstitiis regulariter striatis; apertura late ovata, postice attenuata, labro tenui, antice producto, labio reflexo, haud lato, peripheria obtuse vel subacute angulata. Alt. 10-20, lat. $3\frac{1}{2}$-8.

Shell elongate, pyramidal, intense olive, opaque, solid; whorls 7, always decollate, almost flat, scarcely sloping, elegantly ribbed; ribs regular, close, rounded, slightly curved, remaining the same from suture to suture and disappearing on the last whorl, interstices regularly striate, aperture widely ovate, attenuated posteriorly, labrum thin, produced in front, lip reflected, not wide, periphery obtusely, or in small specimens, subacutely angular.

I am not sure that this should not be regarded as a mere variety of the *M. Wilkinsonii*. The ribs vary much in all the specimens, and as they are faintly present in the last named shell and the spiral grooves are the same, intermediate grades of the other features may be found. They appear to occur in equal numbers in the same localities. It may even be that all three species here enumerated are varieties of one shell. I have not figured the above, having no specimen sufficiently perfect.

EXPLANATION OF FIGURES.

Plate IV.

Fig. 3.—*Melania daktulios.*

,, 4.—*Melania Wilkinsonii,*

ON SOME OF THE INTRODUCED PLANTS OF QUEENSLAND.

BY F. M. BAILEY, F.L.S., HON. MEMBER ROYAL SOCIETY, TASMANIA, AND COR. MEM. LINN. SOC., N. S. W.

Any one who has paid attention to the vegetation of the Colonies cannot have failed to remark how rapidly the flora of the country is being altered by the introduction of foreign plants. Proceeding from the settled districts the strangers soon spread far into the interior—some rapidly, some very slowly, some abundantly and

luxuriantly in one place, with only a struggling and precarious existence in others. As an instance, I may mention *Cryptostemma calendulacea*, R. Brown, of which I saw a solitary plant the other day in one of the back streets of Brisbane. It is a South African weed, which has so overrun the pasture lands of the colony of South Australia as almost totally to destroy the indigenous grasses and useful fodder plants. It has a very rapid and succulent growth in the early spring, and obscures the ground so as to stop all other growth; but on the first of the hot weather it withers away, leaving nothing but a dried up mass which easily falls to powder, and a woolly pappus around its seeds which clings to everything, and is especially injurious to wool. Our Queensland climate differs so much from that of South Australia, especially during the spring months, that there is no likelihood of its spreading to any extent on the coast country; but should it once obtain a footing out in the west—as for instance, on the Diamantina—it would soon change the character of the country, and destroy a large proportion of the fine grasses of the district. It would be well if sheep-farmers would become acquainted with its features, as a little attention in the beginning might prevent the growth of the pest. It is somewhat like Dandelion, but has a *solid* flower stalk, with showy flowers of very pale yellow, with a very deep purple centre, which at a distance looks like black. It was introduced into Adelaide in 1840 or 1841, and soon covered the whole of the Adelaide plains. It is 10 years since I noticed it first in Queensland, and since then no doubt it has been repeatedly introduced either in hay or with seeds, or in earth around plants. It has made vigorous attempts to settle in the country, but the climate has hitherto kept it back. Climate has not been so successful with another pest, *Centaurea melitensis*, Linn. This is a prickly-headed composite plant from the Mediterranean, which many farmers know by the name of cockspur. It is common throughout the Darling Downs, the Maranoa country, &c. This weed was introduced into South Australia very early in its history,

and proved most troublesome along the roadsides, headlands of farms, &c. It was often accompanied by a still worse species, *C. solstitialis*, Linn. The thistle *Cirsium lanceolatum*, Scop, which is troublesome in the south, but especially in Tasmania, has also overrun some few places in Queensland, much to the annoyance of both farmer and grazier. *Onopordon acanthium*, Linn., is probably also in the colony; but I have seen no specimen of it. Although the much larger thistle, *Carduus marianus*, Linn., has been introduced several times, it seems unable to get a strong footing. In South Australia, Victoria, and Tasmania it is very abundant; always growing in dense patches, of sometimes many acres in extent. It is not now regarded with such disfavour as formerly. It grows in poor soil, and produces an abundance of large succulent leaves, even in the driest seasons. When pasture is scarce, horses, cattle, and sheep eat it readily, and thrive upon it. It is fortunate that they do so, as in the recent droughts it was the only thing they had to eat. In some places about Carcoar and other western districts of N. S. Wales, the horses during the dry seasons became quite used to knocking the seeds out of the dry flower-heads and eating them with great relish and even fattening upon them.

In the same order we have the pretty blue *Ageratum conyzoides*, better known by a name given to one of its varieties *A. mexicanum*. This is very common all over the warmer regions of the world. It is seen on all rich waste plains in Queensland, and as it is cultivated in gardens it is not likely to diminish. It is not prickly and I think would not be despised by stock when grass is scarce. It is quite a horticulturalist's flower in England. The genus is American, with only a small number of species. Our plant can only be said to be doubtfully introduced.

Two introduced Plantagos are spreading rapidly in places suited to their growth. *P. major*, Linn., is very abundant in the wet lands and near swamps of the Darling Downs, and may even

be seen now and again on the watercourses around Brisbane, and on many of the farms along the Brisbane River. *P. lanceolata* is not at all uncommon in somewhat the same localities. The Pimpernel (*Anagallis arvensis*, Linn.) meets one's eye at many of the old camps in southern Queensland. The blue variety is frequently to be seen about Brisbane. Warmth of climate does not affect this species, which is as abundant in Tasmania, Victoria, and South Australia, as it is here. It seems to follow the footsteps of man quite closely. As one of the early colonists of South Australia, I can bear testimony to the fact that it was with the grass *Poa annua*, Linn., among the first European genera to become naturalized in the country. It is rather difficult to explain how it has managed to spread so far and widely, for one never meets with it under cultivation, and it is not in Australia, as in England a favourite with the children. When even educated persons are informed that it is the pimpernel of the poets and the poor man's weather-glass of the village herbalist, they look with astonishment at the little stranger, most of them deeming it quite unworthy of its popularity. Yet its spiral vessels form some of the most useful and instructive microscopic objects we have in vegetable life, and it has one other point of distinction—that of being the only genus of the order Primulaceæ which has become naturalized in Australia.

Passiflora edulis, Sims, or the common passion-fruit, sometimes known as the small grenadilla, is one of the commonest climbing plants of our scrubs. This is an exception to the rule that introduced plants are generally noxious weeds. A more acceptable case of acclimatization could hardly be found, as its fruits are abundant, ripen readily, and prove most acceptable to the traveller.

Of the order Verbenaceæ we have naturalized one or two most troublesome weeds. One is the huge, rambling prickly bush, *Lantana camera*, Linn., of tropical America. It has spread to an alarming extent, and forms an impenetrable thicket on the banks of streams, deserted farms, and the edges of scrubs. It is equally

abundant all round Port Jackson. Its abundance of showy flowers all the year round is a poor compensation for the good land it encroaches upon. But the Buenos Ayres verbena (*V. bonariensis*, Linn.,) is a far more troublesome weed in cultivation, and has spread to a greater extent along creeks, &c., in fact everywhere where the land is moist and rich. It grows to a height of 8 and 10 feet, and as it is not eaten by stock has a fair chance of covering the country. It is common enough in New South Wales, and is becoming abundant on the banks of the Nepean River. There is one more member of the order, a garden species of verbena, which is met with here and there along the Brisbane River in large patches. This is *V. venosa*, Gill, which also comes from Buenos Ayres. Few of the garden species surpass it in beauty, and should it get a fair start few will surpass it as a weed on account of its running wiry roots, every small piece of which if left in the ground infallibly produces a plant.

In the order Asclepiadidæ, we have a notable visitor, named by the farmers Red Head. This is *Asclepias curassavica*, Linn., from the West Indies. It is a visitor which has long outstayed its welcome, and become a perfect nuisance. Nothing seems to feed on it except an aphis, which will not kill it, and a butterfiy which they say has been introduced with it, the *Danais erippus*. It has very inconveniently overrun the whole colony. The silky tuft of hair around the seed provides a means for its travelling very far in dry weather. I may remark that the closely allied plant, *Gomphocarpus fruticosus*, R. Brown, or wild cotton, has been introduced here, but has never established itself on our pastures. It was brought from Africa to South Australia, where it has become perfectly naturalized. It is not troublesome, and is a shrub, with very elegant white flowers.

Amongst the Dogbanes or Apocyneæ, we have the shrubby Perrywinkle, or Old Maid, as it is called in India. This is the *Vinca rosea*, Linn. It is a very common weed on refuse heaps

about towns, but is not seen in the country. It has a very showy flower, but is a poisonous weed, not only useless, but dangerous.

One would not easily suppose that the common prickly pear (*Optunia vulgaris*, Mill) would become a troublesome weed, or make much progress; yet it has spread widely and rapidly in Queensland; and in New South Wales, especially along the Upper Hunter, its spread is really formidable. It occupies large patches of some of the best lands, and no good means have yet been devised to eradicate it. Its fruits are eaten by many animals, and in that way the seeds become carried about. It is a purely American plant, and, where it becomes spread into large patches, forms a striking contrast to the Australian vegetation. The climate and soil seem favourable to the genus, and there are two other species which are naturalized in Australia.

Among the Solanaceæ we have a goodly number of naturalized plants. The common thorn apple (*Datura stramonium*, Linn.) has become a great nuisance in all the colonies of Australia, but more in Queensland than elsewhere. It has been thought to have caused the death of stock now and again; but I imagine such instances must be rare, as it is seldom eaten by stock. The harm it does is the room which it takes up, which would in most cases be otherwise occupied by good grass. The beautiful *Solanum sodomæum*, Linn., with orange-colored fruits, is a very common object in our forest country. It is also met with at times in the scrubs, but seems to prefer the former situation. It is often imagined that there are two species of this plant because of the pale or variegated tints of the fruit, but this difference is due to some unfavourable circumstance in its growth. The species is indigenous to the shores of the Mediterranean, and was first grown here as a garden plant. I pass over the smaller species of the order, such as the bittersweet, and which are found every where near cultivated ground.

It is rather astonishing that so very few of the large order Leguminosæ have become naturalized amongst us. We have

Cassia lævigata, Willdenow, which has escaped from our gardens. This can scarcely be look upon as a troublesome weed, but rather an elegant shrub. This is not the case with another member of the same sub-order, *Cæsalpinia sepiaria*, Roxb , which has quite overrun some of the river and creek scrubs, making them quite impenetrable. It was originally introduced from India for the purpose of planting for hedges. I can hardly understand how it can answer, as its wonderful rambling habit seems to me to make it quite unfit for such a purpose.

Of our cultivated fodder plants we have none naturalized. This is a curious fact, since lucerne and clover thrive well, and produce good crops, and the seeds must to a certain extent be spread about by the animals that feed upon them. The only allied plants met with at large and common throughout the colony are the small-flowered Mellilot *(Melilotus parviflora*, Desf) and *Medicago denticulata*, Willd. The latter is spread throughout all the colonies, and goes by the name of yellow clover or native clover. It is considered a real pest in the wool-growing districts. The pod curls round into a disk set with small hooked spines, making it an abundant and formidable burr, almost as bad for the fleece as the celebrated weed which takes its name from Bathurst.

Amongst the vetches we have *Vicia saliva*, Linn., and *V. hirsuta* Koch., which, though common as garden weeds, have not spread much into the pasture.

The large yellow poppy-like flower, with prickly grey-green leaves, almost like a thistle *Argemone mexicana*, Tournefort), is fast spreading over the colony. It is quite as bad as the thistle on the banks of the Hunter River in New South Wales. There it chooses rich grounds near creeks and rivers, while in Queensland it prefers a sandy soil, or about the vicinity of wells, where it must be acknowledged it adds a beauty to the scenery. The Spaniards calls it Figo del inferno, or figs of hell, because of the

deadly narcotic effect of the seeds, which are said to be more powerful than opium.

The order Cruciferæ contains a large number of weedy plants, but few of them are found naturalized in Queensland. I don't remember to have seen more than two—the little garden weed known as watercress (*Senebiera didyma*, Pers.), and the well-known watercress (*Nasturtium officinalis*, R. Brown), which has become naturalized in many of the streams of the main range. I am sorry I cannot give the name of the public benefactor who introduced this wholesome and useful plant into our Queensland streams; but I may take the opportunity of stating that it was introduced into the South Australian watercourses in about 1842 by Mrs. S. Davenport, a lady who took great interest in horticulture, and to whom that colony is indebted for the introduction of many useful plants.

Of the order Malvaceæ, several genera which are common are regarded as introduced, but they are all indigenous to Australia, with the exception of *Malva rotundifolia*, Linn. But those which are very troublesome as weeds have been brought from one part of the colony to the other. I need hardly refer to the well-known pest, *Sida rhombifolia*, Linn., which has now found its way very extensively into the southern colonies. It is not a foreigner, however, being indigenous to Northern Australia. We know nothing of the history of its spread, which is unaccountably rapid and formidable. Why it should have existed all the years it did in North Australia, without spreading, and then come trooping all over the land, must remain an unsolved problem. A beautifnl and tough fibre can be prepared from the bark, so it may be useful one day.

Amongst the Euphorbiaceæ an order which is more characteristic of India than of Australia, but which is well represented in our tropical latitudes as well as in India, we have many weeds. We have a very large number of indigenous members of *Phyllanthus*

but *Euphorbia* is not one of ours. The pretty little *Euphorbia peplus*, Linn., has made several attempts to establish itself here as a garden weed, but without success. But a more pretentious member of the same order has not found any difficulty in spreading all over the country. This is *Ricinus communis*, Linn., or the castor-oil plant. It has a large number of varieties. Some are really superb, notably those which grow along the side of the South-Western railway on the main range between Brisbane and Toowoomba.

The common European nettle *Urtica urens*,, Linn., has obtained a firm footing, and has been falsely accused of poisoning sheep and cattle. This undeserved slander, it has had to bear, in common with many a harmless plant in Queensland. It is very common for stock owners, when they lose any of their sheep or cattle by disease, drought, climate, or other causes, to visit the misfortune on the innocent heads of some of the most useful plants which help to feed them.

Of Labiatæ, the common horehound (*Marrubium vulgare*, Linn.) is naturalized here, as it is in all Australia, but it is never found far away from stockyards and such places. By some of the graziers it is considered very beneficial to sheep.

The water parsnip (*Sium latifolium*, Linn.) is regarded as an introduced plant by Messrs. Bentham and Mueller in the "Flora Australiensis." It is so very abundant in the swamps and water courses of the main range, and has evidently such a place in the vegetation, that I very much doubt if it be not a native. I well remember seeing it in the very earliest days of the colony of South Australia, where in the creeks of the Mount Lofty Ranges it was apparently an indigenous plant.

The following six species are known as "escapes" from gardens and are never found far from cultivation:—*Ipomœa purpurea*, Roth.; *Ficus pumila*, Linn., (the common climbing fig of gardens); *Sorghum halepense*, Pers.; *Pontederia cordata*, Linn., (found a few

years back in a waterhole near Brisbane); *Cuscuta europea*, Linn. (common dodder on lucerne in cultivation); and the pretty scarlet *Salvia coccinea*, Linn.

In many cases of course, the evidence of introduction is founded on little more than conjecture. Some that are called so are not excluded from our native population on evidence that would exclude them in a court of justice; but their cause must be pleaded on another occasion. It may be sufficient to say now that it is doubtful whether some or all of the following 13 species may not really be indigenous:—*Silene gallica*, Linn.; *Stellaria media*, Linn.; *Xanthium spinosum*, Linn.; *Bidens pilosa*, Linn., *Galinsoga parviflora*, Cav.; *Tagetes glandulifera*, Schranck; *Physalis peruviana* Linn.; *Rumex acetosella*, Linn.; *Chenopodium ambrosioides*, Linn; *Sisyrinchium micranthum*, Cav.; *Cynodon dactylon*, Pers.; *Holcus lanatus*, Linn.; *Lipocarpha argentea*, R. Brown. The last is a beautiful sedge, and has only been gathered in one locality by myself. Bentham, in the "Australiensis," (vol. vii., p. 337) seems to doubt its being indigenous. As far as my observations go, I am convinced that it is not introduced, but is as purely indigenous here as in any other of its habitats.

Amongst the Gramineæ or grasses, it is difficult to say which are and which are not introduced in every case, but I think we may safely say that *Lolium temulentum* Linn.; *Ceratochloa unioloides*, De Candolle; *Poa annua*, Linn.; and *Panicum maximum*, Linn., are not natives of Queensland. Something might be added about the qualities of the Drunkard's Rye grass, or as I suppose we should say the Rye grass which makes people drunk, as that was the intention of Linnæus, in calling this weed Lolium temulentum. It is better known to us as wild Darnel, and I believe its poisonous qualities have been made out. Fortunately it is not common, but wherever noticed it should most certainly be extirpated.

These few notes are far from complete, and I have jotted them down to a great extent from memory. It should be observed that

I have taken no notice of such weeds as *Polygonum aviculare*, L.; *Erigeron canadensis*, L.; and *E. linifolius*, some species of *Apium*, *Alternanthera*, &c., as my object has rather been to point out those naturalized plants which especially distinguish the colony.

It will doubtless be a matter of suprise that, in a colony like Queensland, where so much cultivation is carried on, and in such an extensive range of plants, more than the above are not naturalized amongst us.

On a new species of Fern, Asplenium Prenticei.

By F. M. Bailey, Esq., F.L.S., Hon. Mem. Linn. Soc. N.S.W.

I beg to bring before the Society and thus to introduce to science a species of *Asplenium* which I do not think has ever been previously described. I was so fortunate as to discover it in one of the deep umbrageous gullies of Trinity Bay Range, whose tropical richness will no doubt yield many other botanical novelties when fully explored. I saw it first when collecting in April 1877, and I then regarded it as a peculiar variety of *A. decussatum*, Swartz. I find however, when I had leisure for a more careful examination and comparison, that the species belongs rather to the section Euasplenium than the section Diplasium, to which, had I been right in my first determination it should have been referred. In company with this species were some fine specimens of the noble *A. laseripitiifolium*, Lam., and close to the rocks beside it was the small hairy-fronded *Polypodium Hookeri*, Baker, and *Anthrophyum reticulatum*, Kaulf., with plantain-like leaves. In the same gully the stately fern *Aspidium confluens*, Mettenius, was also very abundant, and the edge of the running streams was fringed with *Trichomanes rigidum*, Swartz. I may here remark that I have never found this latter fern in perfection except where its roots were washed with running water. It was on the trunk of the trees in this locality that I first noticed